Some Thoughts on Interoperability

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Abstract

Subject Terms

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19

Interoperability

It has been with us for a long time
but ...
it really became the “center of attention”
with the EISENHOWER Battle Group
in the Spring of ‘98

NETWORK CENTRIC WARFARE HAS ARRIVED

THE ENGINEERING BAR HAS BEEN RAISED

Interoperability

A commonly used term
but …
context really matters

- Interoperability among communications links to facilitate exchange of data / information

- Interoperability among combat systems and JDN / JCTN data links to facilitate tracking and engagement of targets and to put ordnance on target

COMMON FEATURES BUT DIFFERENT REQUIREMENTS

Interoperability

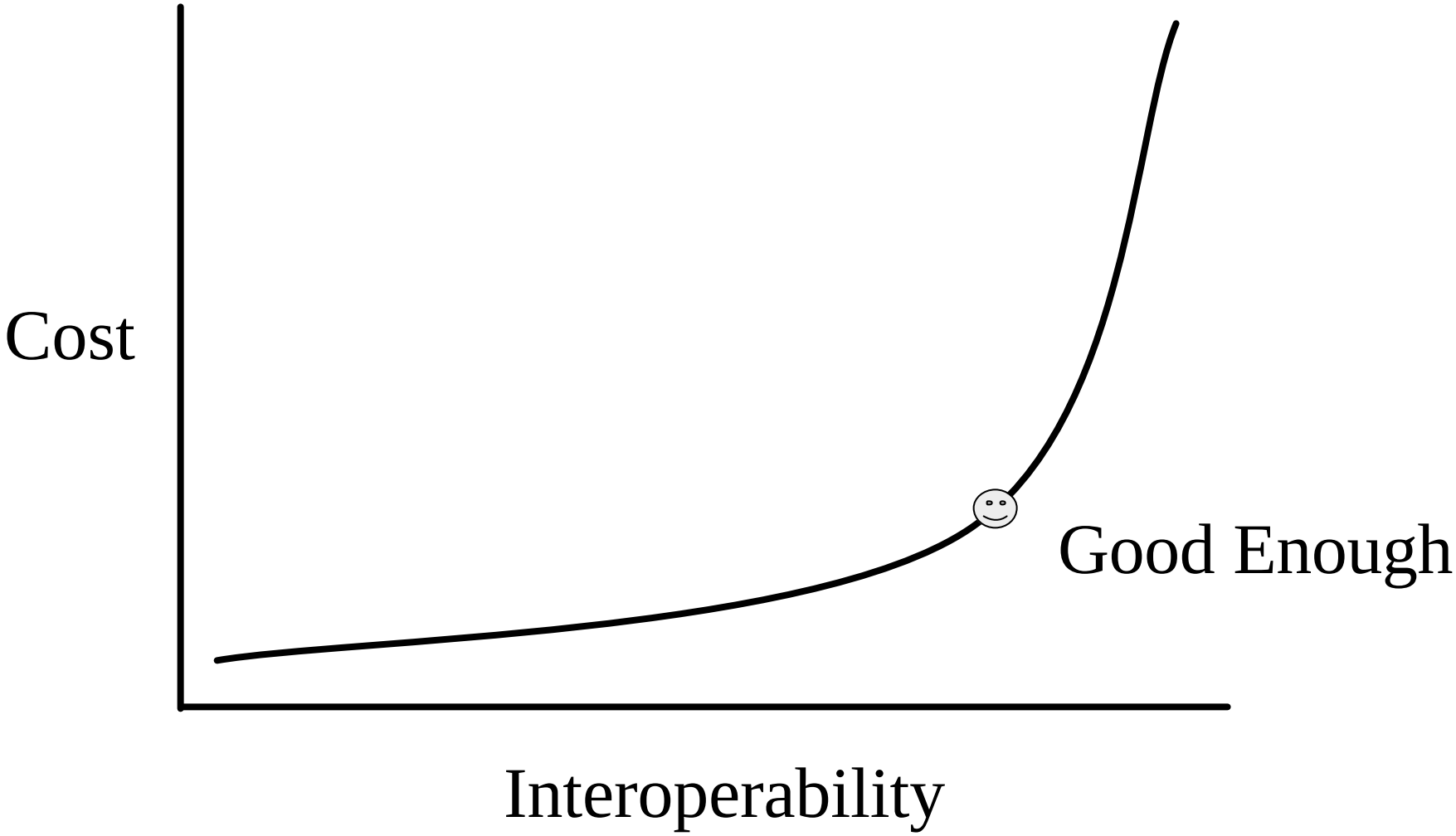
Some say … it is a technical objective

Others say … it is a programmatic focus

Warfighters say … it is an operational requirement in the 21st Century

IT MUST BE MEASURED AT THE TIP OF THE SPEAR
AND ...
IT MUST BE "GOOD ENOUGH"

Interoperability



Interoperability

Measured at the “Tip of the Spear” requires …

- Large joint networked forces with a precise mix of platforms, system suites, software versions, etc.

- An environment where analysis, testing and evaluation can be conducted in a repeatable disciplined way.

- A single consolidated engineering effort directed at uniformly recognized and accepted engineering standards and objectives

- Action by all parties to programmatically implement necessary changes

THERE ARE NO SHORTCUTS

OPERATIONAL FORCES SIMPLY CANNOT MEET THE NEED

SIAP ENGINEER

- Addresses CS / JDN / JCTN Interoperability
- Must focus on warfighter priorities
- Must address a “Joint / Coalition” solution
    - Joint sensor netting / data links
    - Coalition access to data links
- Must be supported by all services

Joint Distributed Engineering Plant

- It (or something like it) must be used for Engineering / Testing in lieu of operating forces

  - Must interface with operational units
  - Must receive priority enhancement
  - Must be fully supported and employed

NETWORK CENTRIC ENGINEERING AND T&E FOR A NETWORK CENTRIC FORCE

One Battle Group Commander's Opinion

Despite our best efforts, we will not achieve interoperability to support the warfighter's needs unless:

- We change how we **program & budget** for networked and COTS-based systems

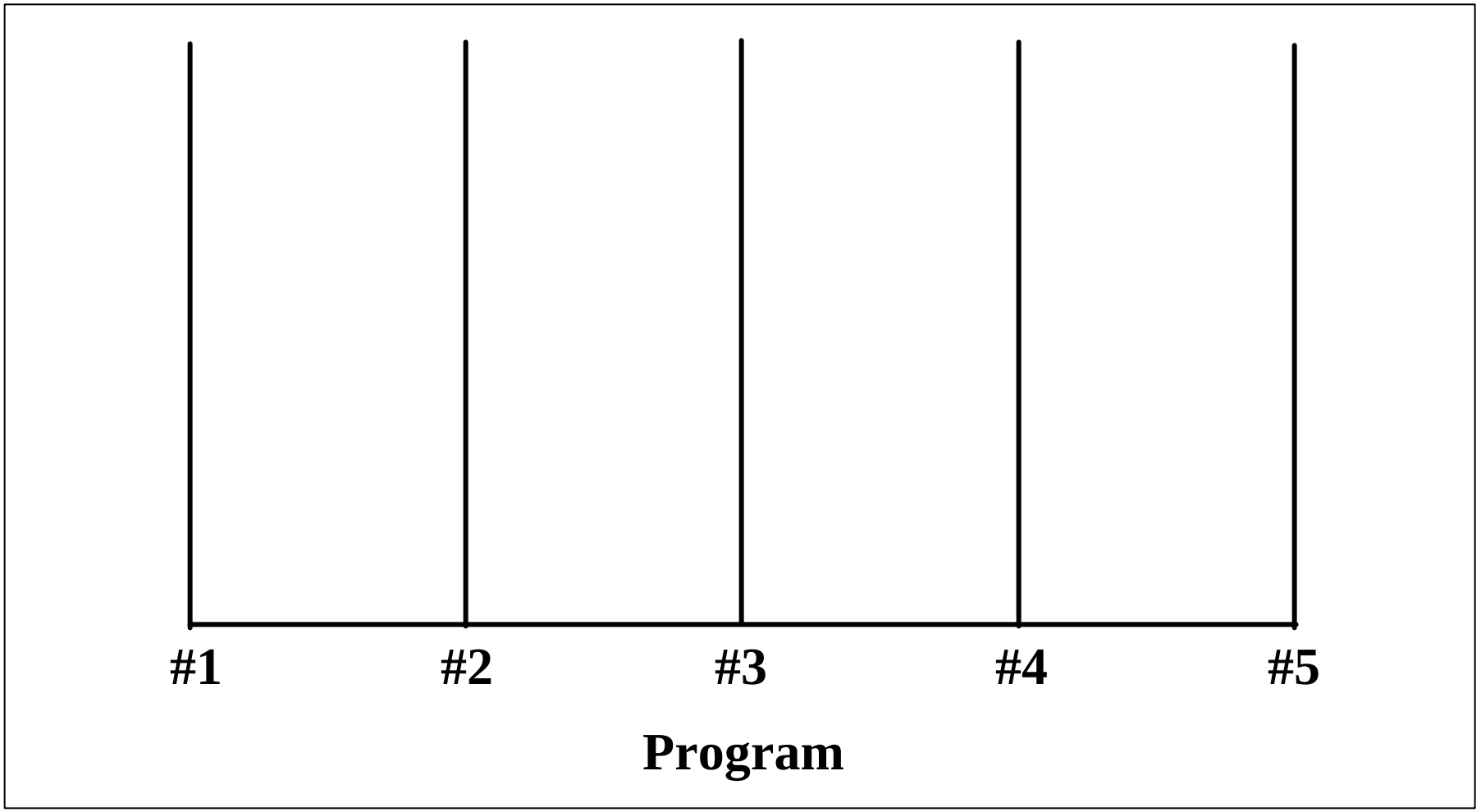
Planning, Programming & Execution

OBJECTIVE:

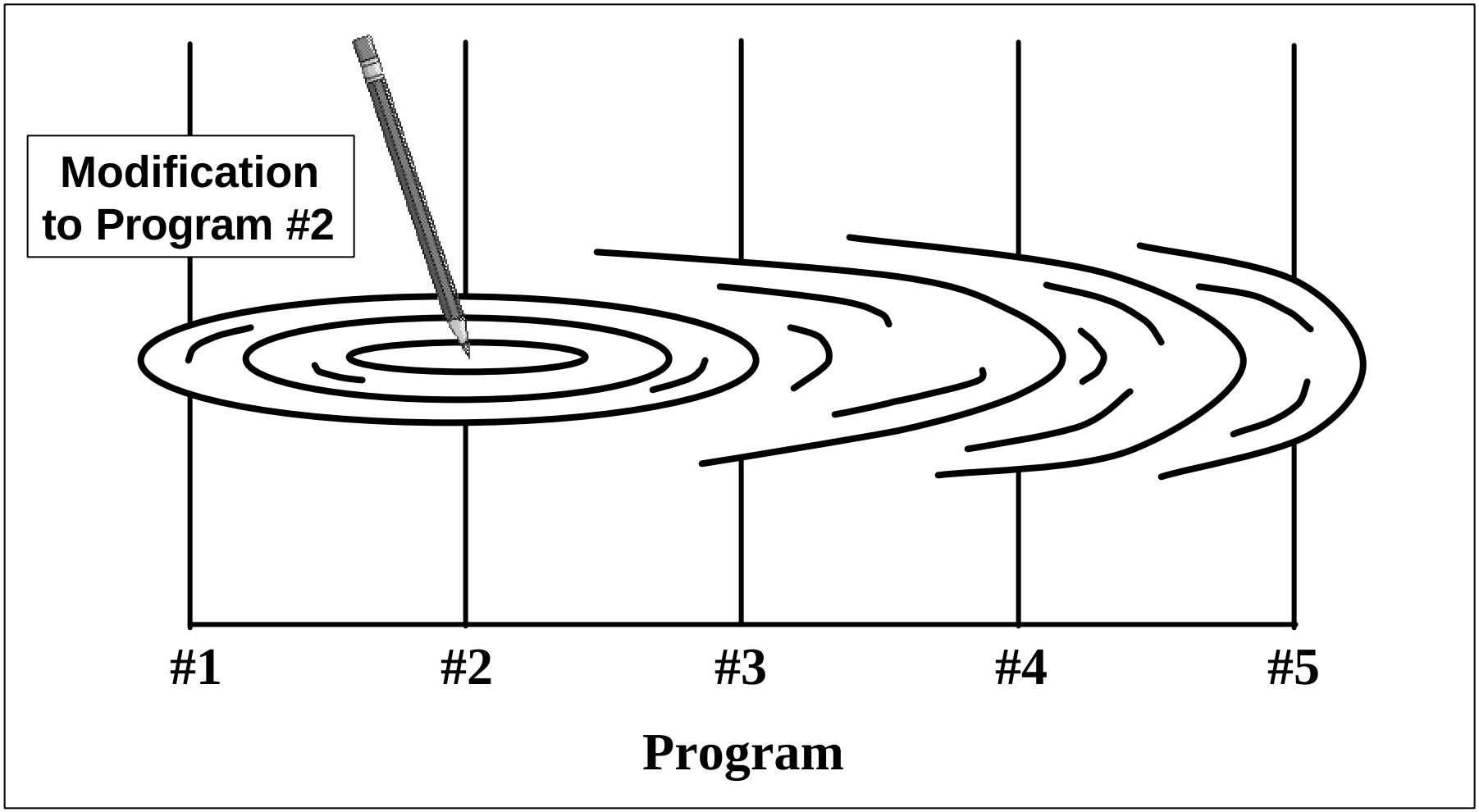
- END-TO-END CAPABILITY

Achievement dependant on coordinated execution of multiple programs

Planning, Programming & Execution



Planning, Programming & Execution



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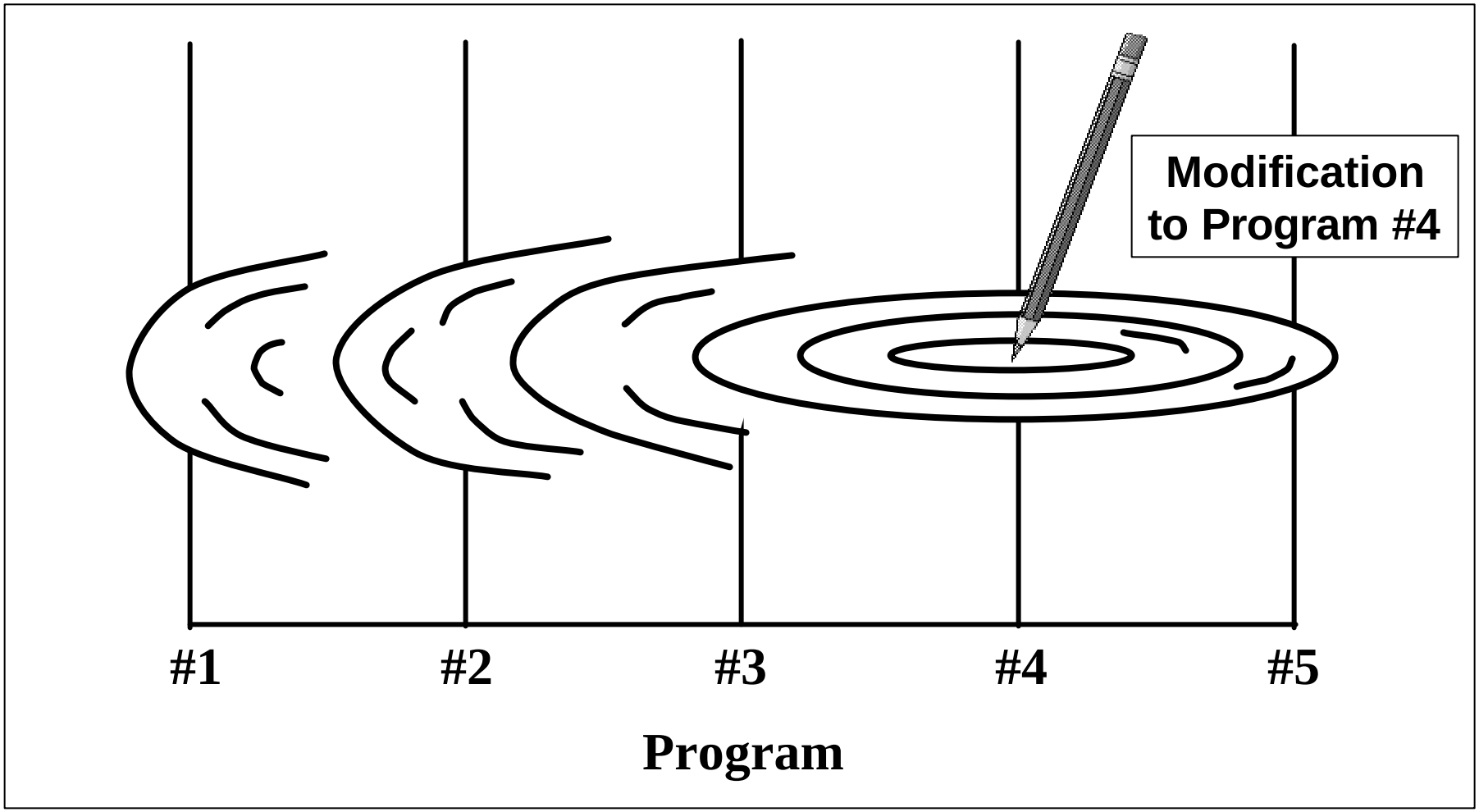

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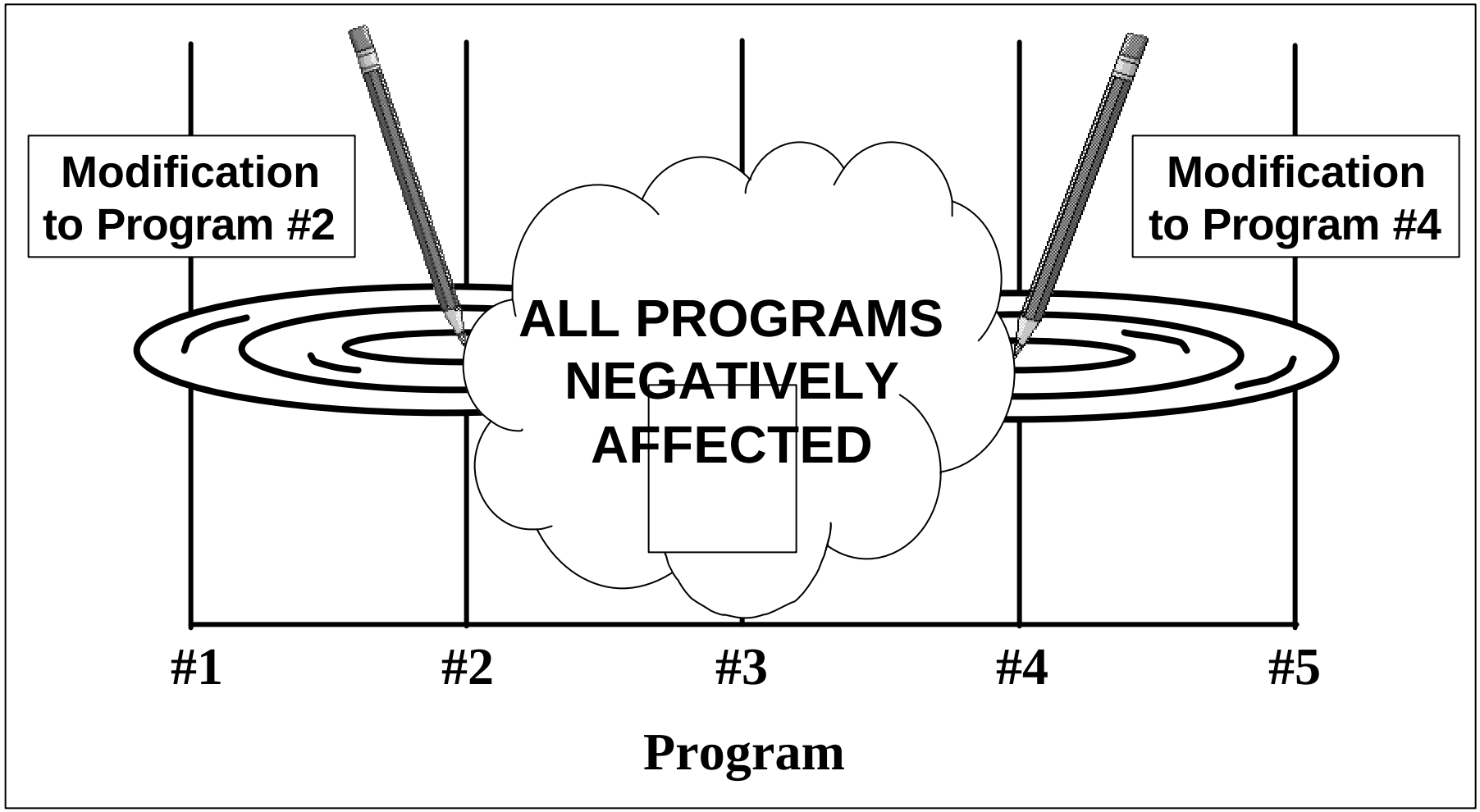

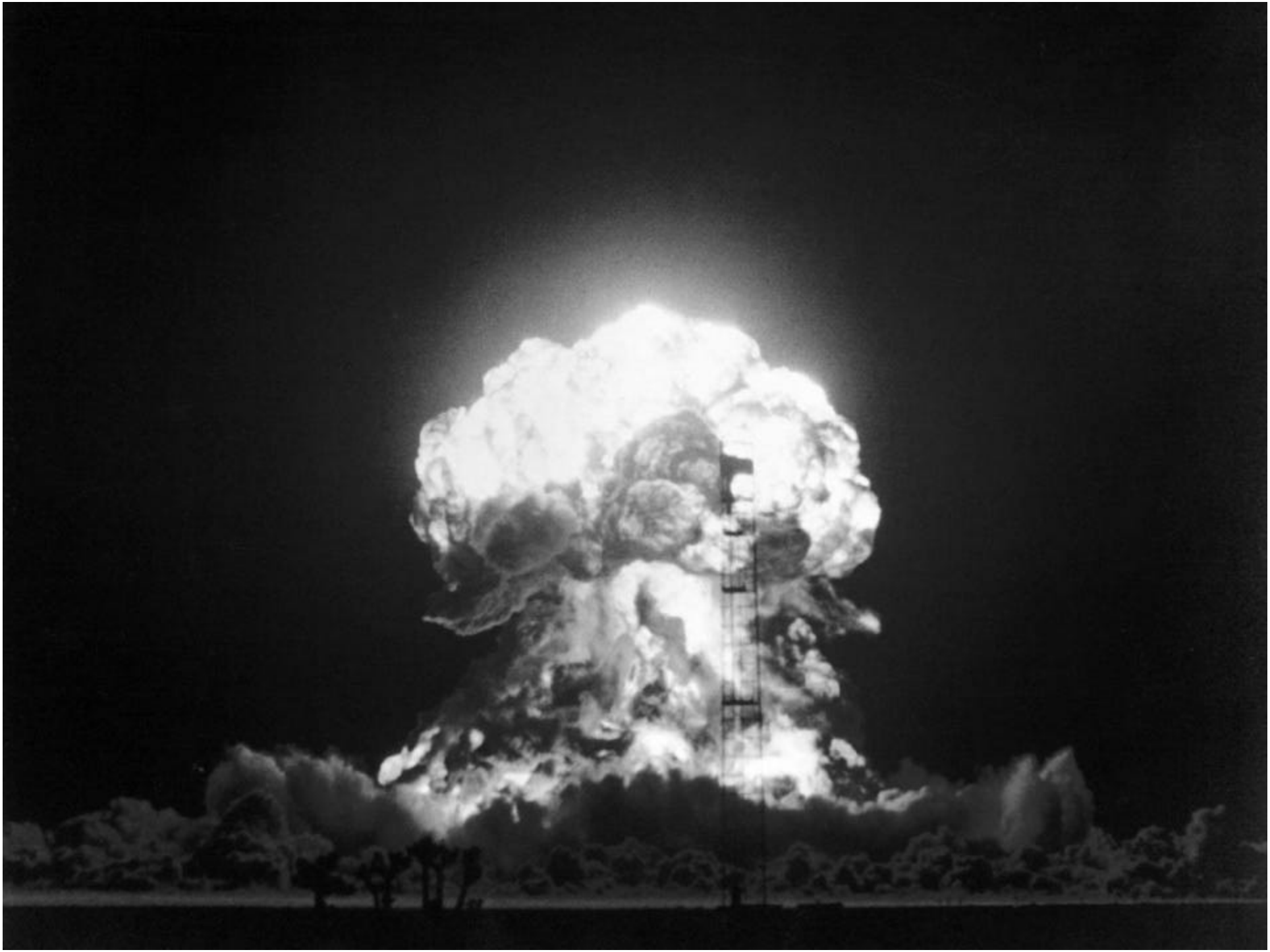

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- We change how we **acquire & deploy** networked and COTS-based systems

Change how we acquire & deploy networked and COTS-based systems

- Expedite transition from rapid prototype to force wide deployment
- Minimize OPEVAL operational loading (DEP/JDEP potential key)
- Fully employ D-30 schedule to meet "warfighter" needs
- Build "networks" … not connected systems
  - Minimize overlapping and duplication of functions

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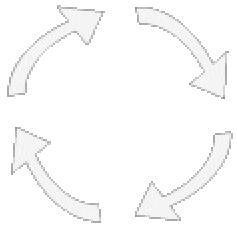
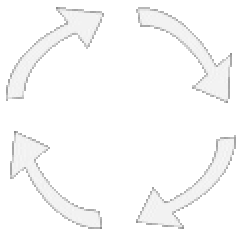
- We change how we **program & budget** for networked and COTS-based systems
- We change how we **acquire & deploy** networked and COTS-based systems
- We focus functionality at the optimum place in the network

A Warfighter's Request

- **Command and Control**
  - **Communication**
  - **Display**
  - **Processing**
  - **Planning**
  - **Wargaming**





- **Combat Systems**
  - **Sensor Netting**
  - **Data Link Interoperable**
  - **Ordnance on Target**